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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/300,302 04/27/99 LLINAS

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IM22/1117

EXAMINER

DI VERDI, M

ART UNIT

PAPER NUMBER

1755

DATE MAILED:

11/17/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/300,302

Applicant(s)
Gerardo Hidalgo Llinas et al.

Examiner
Micha I J. DiVerdi

Group Art Unit
1755



☒ Responsive to communication(s) filed on Aug 28, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-20 is/are pending in the application.

Of the above, claim(s) 9 and 12 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-8, 10, 11, and 13-20 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 7, 8, 12

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of Group I, claims 1-8, 10, 11, and new claims 13-20 in Paper No. 11, dated August 28, 2000 is acknowledged. The traversal is on the ground(s) that restriction is authorized but not required.. This is not found persuasive because examination of the other claims 9 and 12 would require searching in two different other classes and an unknown number of subclasses within those classes.

The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

2. Claims 1-8, 10, 11, and 13-20 are objected to because of the following informalities: in independent claims 1 and 6, lines 30 and 29, respectively, it states that "M has a valence" without further specifying one. It seems that either a valence should be specified or this line should be removed since all metal atoms in a complex have a valence. Appropriate correction is required. ✓

Specification

3. The disclosure is objected to because of the following informalities: on page 36, line 27, the picture of a pair of scissors should probably be the Greek letter alpha. ✓

Appropriate correction is required.

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Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-8, 10, 11, and 13-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In independent claims 1 and 6, line 2, "obtainable by" should be --obtained by--; note Ex parte Tanksley, 26 USPQ2d 1384; Atlantic Thermoplastics Co. Inc. V. Faytex Corp., 970 F.2d 834, 23 USPQ2d 1481, 1486, n. 6 (Fed. Cir. 1992), citing Cochrane v. BASF, 111 U.S. 293.

6. Claims 6-8, 14, 16, 17, 19, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6-8, 14, 16, 17, 19, and 20 are drawn to either a heterogeneous catalytic component or a heterogeneous catalytic system but both sets of claims describe reacting a metallocene with an activating compound, a reaction that would result in a homogeneous catalytic component or system. Clarification is required.

7. Claims 5-7, 14, 16, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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received

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Claims 5-7, 14, 16, and 19 are drawn to a catalytic component comprised of a metallocene and either a trialkylaluminum or alkylalumoxane but ^{not} do clarify whether there is prior treatment of the inorganic support with either the trialkylaluminum or alkylalumoxane or do the trialkylaluminum and alkylalumoxane act more as a cocatalyst, or does it matter? Clarification is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-4, 6, 7, 10, 11, 13-16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vega *et al.* (EP 0 757 992).

Vega *et al.* teach a heterogeneous catalytic system comprised of an inorganic support, an alkylalumoxane cocatalyst, and a metallocene that satisfies the limitations of Formula I in claims 1-4, 6, 7, 10, 11, 13-16, 18, and 19. See page 2, lines 53-58, and page 5, lines 27-34. Also see page 3, lines 10-37 for a description of the metallocene. In particular when M = Zr, L = cyclopentadienyl, m = 0, n = 2, o, q, r, and s = 0, Y = OH, p = 2, X = Cl, and R₂ and R₄ = H, the metallocene bis(2-hydroxyethyl-cyclopentadienyl)zirconium dichloride is described, a metallocene that satisfies the limitations of claims 1-4, 6, 10, 15, 16, 18, and 19. When L =

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fluorenyl, the metallocene described satisfies the limitations of claim 7. When X = methoxy, ethoxy, or isopropoxy, the metallocene described satisfies the limitations of claims 13 and 14. Vega *et al.* fail to disclose an actual example of the catalytic component described above. It would have been obvious to one ordinarily skilled in the art of metallocene catalysis to prepare such a catalytic component. The motivation would have been that such a catalytic component is fairly taught by Vega *et al.*

10. Claims 1-8, 10, 11, and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hidalgo Llinas *et al.* (EP 0 802 203 A1).

Hidalgo Llinas *et al.* teach a heterogeneous catalytic system comprised of an inorganic support, an alkylalumoxane cocatalyst, and a metallocene that satisfies the limitations of Formula I in claims 1-8, 10, 11, and 13-20. See page 3, lines 35-36, page 9, lines 7-10, and pages 6 and 7 for a description of the metallocene. When L is fluorenyl or cyclopentadienyl, M = Zr, X = Cl or methoxide, o, q, r, and s = 0, Y = OH, p = 2, R¹¹ and R¹² = H the metallocene thus described satisfies the limitations of claims 1-8, 10, 11, and 13-20. Hidalgo Llinas *et al.* also teach treating the silica support with an organoaluminum prior to treatment with the metallocene and cocatalyst. See page 8, lines 47-52. Hidalgo Llinas *et al.* fail to disclose an actual example of the catalytic component described above. It would have been obvious to one ordinarily skilled in the art of metallocene catalysis to prepare such a catalytic component. The motivation would have been that such a catalytic component is fairly taught by Hidalgo Llinas *et al.*

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11. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canich (U.S. Patent No. 5,955,625).

Canich teaches an olefin polymerization catalyst comprised of a metallocene according to Formula III of claims 6 and 14 and an alkylalumoxane cocatalyst. See column 17, lines 4-8, and column 4, lines 1-59 for a description of the metallocene. In particular when R³ of the Canich reference is a hydroxy substituted alkyl a metallocene satisfying the limitations of claims 6 and 14 is obtained. Canich fails to disclose an actual example of such a catalyst. It would have been obvious to one ordinarily skilled in the art of metallocene catalysis to prepare the above described catalyst. The motivation would have been that such a catalyst was fairly taught by Canich.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. DiVerdi whose telephone number is (703) 305-0213. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

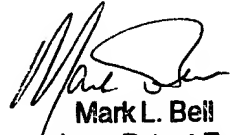
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700



Michael J. DiVerdi

November 15, 2000